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PCT/CA2003/001716

SEQUENCE LISTING

<110> Xenon Genetics Inc.

<120> HSAN II Related Gene and Expression Products
and Uses Thereof

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<151> 2002-11-12

<150> US/60/502,453

<151> 2003-09-12

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WO 2004/043999

PCT/CA2003/001716

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<212> PRT

<213> Mus musculus

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Phe

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Rheo. Rheo.

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Tyr Lys Asp Met Arg Ala Glu His Gly Glu Ala Met Arg Arg Leu Ser
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<210> 17

<211> 2365

<212> DNA

<213> Sus scrofa

<400> 17

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gaaaACTGAA ttTAGTTAC ttGTCAAAT CAGTGAATTC tggTCATATG tagAACGTT	2040
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taacatttttt ttTCCCTGTA aaatGAAAAG aatGGGAAGT ggagaatCCT ttttCTaaaa	2220
gttagtattAG gAGTACATAC agaaaATTAAG agAGGAGAA catCTTAATA aGTGAAGTTG	2280
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<211> 433
<212> PRT
<213> Sus scrofa

<400> 18
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20 .25 30

Phe Pro Thr Ile His Glu Arg Pro Val Ser Phe Ser Pro Pro Pro Thr
35 40 45

Cys Pro Pro Lys Val Ala Ile Ser Gln Arg Arg Lys Ser Thr Ser Phe
50 55 . 60 .

Leu Glu Ala Gln Thr His His Phe Gln Pro Leu Leu Arg Thr Val Gly
65 70 75 80

Gln Asn Leu Leu Pro Pro Gly Gly Cys Pro Thr Asn Trp Thr Pro Glu
85 90 95

Ala Val Val Met Leu Gly Thr Thr Ala Ser Arg Val Thr Gly Glu Pro
100 105 110

Cys Glu Ile Gln Val Gln Pro Leu Phe Glu Pro Thr Gln Val Tyr Gly
115 120 125

Asp Cys Arg Pro Gly Leu Val Leu Pro Glu Glu Ala His Tyr Phe Ile
130 135 140

Pro Gln Glu Ala Val Tyr Val Ala Gly Val His Tyr Gln Thr Gln Met
145 150 155 160

Ala Glu Gln Phe Glu Gly Ile Pro Tyr Asn Ser Pro Val Leu Ser Ser

Pro Met Lys Gln Ile Pro Glu Gln Lys Pro Val Gln Gly Gly Pro Pro
 180 185 190

Ser Ser Ser Val Phe Glu Phe Pro Ser Gly Gln Ala Phe Leu Val Gly
 195 200 205

His Leu Gln Asn Leu Arg Leu Asp Ser Gly Leu Ser Pro Gly Ser Pro
 210 215 220

Leu Ser Ser Ile Ser Thr Pro Ile Ser Thr Asp Ala Thr Arg Leu Lys
 225 230 235 240

Phe His Pro Val Phe Val Pro His Ser Ala Pro Ala Val Leu Thr His
 245 250 255

Asn Asn Glu Ser Arg Ser Asn Cys Val Phe Glu Phe His Val His Thr
 260 265 270

Pro Ser Ser Ser Gly Glu Gly Val Leu Pro Gln Arg Ile Tyr
 275 280 285

Arg Asn Arg Gln Val Ala Val Asp Leu Asn Gln Glu Glu Pro Pro Pro
 290 295 300

Gln Ser Ala Gly Leu His Gly Arg Leu Gln Pro Val Thr Glu Glu Gln
 305 310 315 320

His Asn Phe Gln Pro Pro Glu Leu Thr Val Ser Val Val Glu Pro Thr
 325 330 335

Gly Gln Ser Trp Pro Ile Gly Ser Pro Glu Tyr Ser Ser Asp Ser Ser
 340 345 350

Gln Ile Thr Ser Ser Asp Pro Ser Asp Phe Gln Ser Pro Pro Pro Thr
 355 360 365

Gly Gly Thr Ala Ala Pro Phe Gly Ser Asp Val Ser Leu Pro Phe Ile
 370 375 380

His Leu Pro Gln Thr Val Ile Gln Glu Ser Pro Leu Phe Phe Cys Phe
 385 390 395 400

Pro Gln Gly Thr Thr Ser Pro Gln Ile Leu Ser Ala Ser Phe Ser Ser
 405 410 415

Gly Gly Ser Ala Leu His Pro Gln Val Ile Gly Lys Leu Pro Gln Phe
 420 425 430

Ser

<210> 19
 <211> 426
 <212> PRT
 <213> Homo sapiens

<400> 19
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Thr Tyr Pro Glu Ser Gln Ile Phe Phe Pro Thr Ile His Glu Arg Pro
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Val Ser Phe Ser Pro Pro Pro Thr Cys Pro Pro Lys Val Ala Ile Ser
 35 40 45

Gln Arg Arg Lys Ser Thr Ser Phe Leu Glu Ala Gln Thr His His Phe
 50 55 60

Gln Pro Leu Leu Arg Thr Val Gly Gln Ser Leu Leu Pro Pro Gly Gly
 65 70 75 80

Ser Pro Thr Asn Trp Thr Pro Glu Ala Val Val Met Leu Gly Thr Thr
 85 90 95

Ala Ser Arg Val Thr Gly Glu Ser Cys Glu Ile Gln Val His Pro Met
 100 105 110

Phe Glu Pro Ser Gln Val Tyr Ser Asp Tyr Arg Pro Gly Leu Val Leu
 115 120 125

Pro Glu Glu Ala His Tyr Phe Ile Pro Gln Glu Ala Val Tyr Val Ala
 130 135 140

Gly Val His Tyr Gln Ala Arg Val Ala Glu Gln Tyr Glu Gly Ile Pro
 145 150 155 160

Tyr Asn Ser Ser Val Leu Ser Ser Pro Met Lys Gln Ile Pro Glu Gln
 165 170 175

Lys Pro Val Gln Gly Gly Pro Thr Ser Ser Ser Val Phe Glu Phe Pro
 180 185 190

Ser Gly Gln Ala Phe Leu Val Gly His Leu Gln Asn Leu Arg Leu Asp
 195 200 205

Ser Gly Leu Gly Pro Gly Ser Pro Leu Ser Ser Ile Ser Ala Pro Ile
 210 215 220

Ser Thr Asp Ala Thr Arg Leu Lys Phe His Pro Val Phe Val Pro His
 225 230 235 240

Ser Ala Pro Ala Val Leu Thr His Asn Asn Glu Ser Arg Ser Asn Cys
 245 250 255

Val Phe Glu Phe His Val His Thr Pro Ser Ser Ser Gly Glu Gly
 260 265 270

Gly Gly Ile Leu Pro Gln Arg Val Tyr Arg Asn Arg Gln Val Ala Val
 275 280 285

Asp Leu Asn Gln Glu Glu Leu Pro Pro Gln Ser Val Gly Leu His Gly
 290 295 300

Tyr Leu Gln Pro Val Thr Glu Glu Lys His Asn Tyr His Ala Pro Glu
 305 310 315 320

Leu Thr Val Ser Val Val Glu Pro Ile Gly Gln Asn Trp Pro Ile Gly
 325 330 335

Ser Pro Glu Tyr Ser Ser Asp Ser Ser Gln Ile Thr Ser Ser Asp Pro
 340 345 350

 Ser Asp Phe Gln Ser Pro Pro Pro Thr Gly Gly Ala Ala Ala Pro Phe
 355 360 365

 Gly Ser Asp Val Ser Met Pro Phe Ile His Leu Pro Gln Thr Val Leu
 370 375 380

 Gln Glu Ser Pro Leu Phe Phe Cys Phe Pro Gln Gly Thr Thr Ser Gln
 385 390 395 400

 Gln Val Leu Thr Ala Ser Phe Ser Ser Gly Gly Ser Ala Leu His Pro
 405 410 415

 Gln Val Ile Gly Lys Leu Pro Gln Leu Phe
 420 425

<210> 20
 <211> 419
 <212> PRT
 <213> Homo sapiens

<400> 20
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 20 25 30

 Thr Cys Pro Pro Lys Val Ala Ile Ser Gln Arg Arg Lys Ser Thr Ser
 35 40 45

 Phe Leu Glu Ala Gln Thr His His Phe Gln Pro Leu Leu Arg Thr Val
 50 55 60

 Gly Gln Ser Leu Leu Pro Pro Gly Gly Ser Pro Thr Asn Trp Thr Pro
 65 70 75 80

 Glu Ala Val Val Met Leu Gly Thr Thr Ala Ser Arg Val Thr Gly Glu
 85 90 95

 Ser Cys Glu Ile Gln Val His Pro Met Phe Glu Pro Ser Gln Val Tyr
 100 105 110

 Ser Asp Tyr Arg Pro Gly Leu Val Leu Pro Glu Glu Ala His Tyr Phe
 115 120 125

 Ile Pro Gln Glu Ala Val Tyr Val Ala Gly Val His Tyr Gln Ala Arg
 130 135 140

 Val Ala Glu Gln Tyr Glu Gly Ile Pro Tyr Asn Ser Ser Val Leu Ser
 145 150 155 160

 Ser Pro Met Lys Gln Ile Pro Glu Gln Lys Pro Val Gln Gly Gly Pro
 165 170 175

 Thr Ser Ser Ser Val Phe Glu Phe Pro Ser Gly Gln Ala Phe Leu Val

Gly His Leu Gln Asn Leu Arg Leu Asp Ser Gly Leu Gly Pro Gly Ser
 195 200 205

Pro Leu Ser Ser Ile Ser Ala Pro Ile Ser Thr Asp Ala Thr Arg Leu
 210 215 220

Lys Phe His Pro Val Phe Val Pro His Ser Ala Pro Ala Val Leu Thr
 225 230 235 240

His Asn Asn Glu Ser Arg Ser Asn Cys Val Phe Glu Phe His Val His
 245 250 255

Thr Pro Ser Ser Ser Gly Glu Gly Gly Ile Leu Pro Gln Arg
 260 265 270

Val Tyr Arg Asn Arg Gln Val Ala Val Asp Leu Asn Gln Glu Glu Leu
 275 280 285

Pro Pro Gln Ser Val Gly Leu His Gly Tyr Leu Gln Pro Val Thr Glu
 290 295 300

Glu Lys His Asn Tyr His Ala Pro Glu Leu Thr Val Ser Val Val Glu
 305 310 315 320

Pro Ile Gly Gln Asn Trp Pro Ile Gly Ser Pro Glu Tyr Ser Ser Asp
 325 330 335

Ser Ser Gln Ile Thr Ser Ser Asp Pro Ser Asp Phe Gln Ser Pro Pro
 340 345 350

Pro Thr Gly Gly Ala Ala Ala Pro Phe Gly Ser Asp Val Ser Met Pro
 355 360 365

Phe Ile His Leu Pro Gln Thr Val Leu Gln Glu Ser Pro Leu Phe Phe
 370 375 380

Cys Phe Pro Gln Gly Thr Thr Ser Gln Gln Val Leu Thr Ala Ser Phe
 385 390 395 400

Ser Ser Gly Gly Ser Ala Leu His Pro Gln Val Ile Gly Lys Leu Pro
 405 410 415

Gln Leu Phe

<210> 21

<211> 425

<212> PRT

<213> Mus musculus

<400> 21

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Thr Tyr Pro Glu Ser Gln Ile Phe Phe Pro Thr Ile His Glu Arg Pro
 20 25 30

Val Ser Phe Ser Pro Pro Pro Thr Cys Pro Pro Lys Val Ala Ile Ser

40

45

Gln Arg Arg Lys Ser Thr Ser Phe Leu Glu Ala Gln Thr Arg His Phe
50 55 60

Gln Pro Leu Leu Arg Thr Val Gly Gln Asn His Leu Pro Pro Gly Ser
65 70 75 80

Ser Pro Thr Asn Trp Thr Pro Glu Ala Ile Val Met Leu Gly Ala Thr
85 90 95

Ala Asn Arg Val Asn Arg Glu Leu Cys Glu Met Gln Val Gln Pro Val
100 105 110

Phe Glu Pro Thr Gln Ile Tyr Ser Asp Tyr Arg Pro Gly Leu Val Leu
115 120 125

Ala Glu Glu Ala His Tyr Phe Ile Pro Gln Glu Thr Val Tyr Leu Ala
130 135 140

Gly Val His Tyr Gln Ala Gln Val Ala Gly Gln Tyr Glu Gly Ile Ser
145 150 155 160

Tyr Asn Ser Pro Val Leu Ser Ser Pro Met Lys Gln Ile Ser Glu Gln
165 170 175

Lys Pro Val Pro Gly Gly Pro Ala Ser Ser Ser Val Phe Glu Phe Pro
180 185 190

Ser Gly Gln Ala Phe Leu Val Gly His Leu Gln Asn Leu Arg Leu Asp
195 200 205

Ser Gly Pro Ser Pro Ala Ser Pro Leu Ser Ser Ile Ser Ala Pro Asn
210 215 220

Ser Thr Asp Ala Thr His Leu Lys Phe His Pro Val Phe Val Pro His
225 230 235 240

Ser Ala Pro Ala Val Leu Thr Asn Ser Asn Glu Asn Arg Ser Asn Cys
245 250 255

Val Phe Glu Phe His Ala Gin Thr Pro Ser Ser Ser Gly Glu Gly Gly
260 265 270

Gly Ile Leu Pro Gln Arg Val Tyr Arg Asn Arg Gln Val Ala Val Asp
275 280 285

Ser Asn Gln Glu Glu Leu Ser Pro Gln Ser Val Gly Leu His Cys His
290 295 300

Leu Gln Pro Val Thr Glu Glu Gln Arg Asn Asn His Ala Pro Glu Leu
305 310 315 320

Thr Ile Ser Val Val Glu Pro Met Gly Gln Ile Trp Pro Ile Gly Ser
325 330 335

Pro Glu Tyr Ser Ser Asp Ser Ser Gln Ile Thr Ser Ser Asp Leu Ser
340 345 350

Asp Phe Gln Ser Pro Pro Pro Thr Gly Gly Thr Ala Ala Pro Phe Gly
355 360 365

Ser Asp Val Ser Leu Pro Phe Ile Arg Leu Pro Gln Thr Val Leu Gln
 370 375 380
 Glu Ser Pro Leu Phe Phe Cys Phe Pro Gln Gly Thr Thr Ser Gln Gln
 385 390 395 400
 Val Leu Ser Ala Ser Tyr Ser Ser Gly Gly Ser Thr Leu His Pro Gln
 405 410 415
 Val Ile Gly Lys Leu Ser Gln Phe Phe
 420 425

<210> 22
<211> 418
<212> PRT
<213> Mus musculus

<400> 22
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Thr Cys Pro Pro Lys Val Ala Ile Ser Gln Arg Arg Lys Ser Thr Ser
35 40 45
Phe Leu Glu Ala Gln Thr Arg His Phe Gln Pro Leu Leu Arg Thr Val
50 55 60
Gly Gln Asn His Leu Pro Pro Gly Ser Ser Pro Thr Asn Trp Thr Pro
65 70 75 80
Glu Ala Ile Val Met Leu Gly Ala Thr Ala Asn Arg Val Asn Arg Glu
85 90 95
Leu Cys Glu Met Gln Val Gln Pro Val Phe Glu Pro Thr Gln Ile Tyr
100 105 110
Ser Asp Tyr Arg Pro Gly Leu Val Leu Ala Glu Glu Ala His Tyr Phe
115 120 125
Ile Pro Gln Glu Thr Val Tyr Leu Ala Gly Val His Tyr Gln Ala Gln
130 135 140
Val Ala Gly Gln Tyr Glu Gly Ile Ser Tyr Asn Ser Pro Val Leu Ser
145 150 155 160
Ser Pro Met Lys Gln Ile Ser Glu Gln Lys Pro Val Pro Gly Gly Pro
165 170 175
Ala Ser Ser Ser Val Phe Glu Phe Pro Ser Gly Gln Ala Phe Leu Val
180 185 190
Gly His Leu Gln Asn Leu Arg Leu Asp Ser Gly Pro Ser Pro Ala Ser
195 200 205
Pro Leu Ser Ser Ile Ser Ala Pro Asn Ser Thr Asp Ala Thr His Leu

Lys Phe His Pro Val Phe Val Pro His Ser Ala Pro Ala Val Leu Thr
 225 230 235 240

Asn Ser Asn Glu Asn Arg Ser Asn Cys Val Phe Glu Phe His Ala Gln
 245 250 255

Thr Pro Ser Ser Ser Gly Glu Gly Gly Ile Leu Pro Gln Arg Val
 260 265 270

Tyr Arg Asn Arg Gln Val Ala Val Asp Ser Asn Gln Glu Glu Leu Ser
 275 280 285

Pro Gln Ser Val Gly Leu His Cys His Leu Gln Pro Val Thr Glu Glu
 290 295 300

Gln Arg Asn Asn His Ala Pro Glu Leu Thr Ile Ser Val Val Glu Pro
 305 310 315 320

Met Gly Gln Ile Trp Pro Ile Gly Ser Pro Glu Tyr Ser Ser Asp Ser
 325 330 335

Ser Gln Ile Thr Ser Ser Asp Leu Ser Asp Phe Gln Ser Pro Pro Pro
 340 345 350

Thr Gly Gly Thr Ala Ala Pro Phe Gly Ser Asp Val Ser Leu Pro Phe
 355 360 365

Ile Arg Leu Pro Gln Thr Val Leu Gln Glu Ser Pro Leu Phe Phe Cys
 370 375 380

Phe Pro Gln Gly Thr Thr Ser Gln Gln Val Leu Ser Ala Ser Tyr Ser
 385 390 395 400

Ser Gly Gly Ser Thr Leu His Pro Gln Val Ile Gly Lys Leu Ser Gln
 405 410 415

Phe Phe

<210> 23
 <211> 426
 <212> PRT
 <213> Ratus ratus

<400> 23
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Thr Tyr Pro Glu Ser Gln Ile Phe Phe Pro Thr Ile His Glu Arg Pro
 20 25 30

Val Ser Phe Ser Pro Pro Pro Thr Cys Pro Pro Lys Val Ala Ile Ser
 35 40 45

Gln Arg Arg Lys Ser Thr Ser Phe Leu Glu Ala Gln Thr Arg His Phe
 50 55 60

Gln Pro Leu Leu Arg Thr Val Gly Gln Asn His Leu Pro Pro Gly Gly

Ser Pro Thr Asn Trp Thr Pro Glu Ala Ile Val Met Leu Gly Thr Thr
 85 90 95
 Ala Asn Arg Val Asn Arg Glu Leu Cys Glu Met Gln Val Gln Pro Val
 100 105 110
 Phe Glu Thr Thr Gln Ile Tyr Ser Asp Tyr Arg Pro Gly Leu Val Leu
 115 120 125
 Ala Glu Glu Ala His Tyr Phe Ile Pro Gln Glu Thr Val Tyr Leu Ala
 130 135 140
 Gly Val His Tyr Gln Ala His Ala Ala Gly Gln Tyr Glu Gly Ile Ser
 145 150 155 160
 Tyr Asn Ser Pro Val Leu Ser Ser Pro Met Lys Gln Ile Thr Glu Gln
 165 170 175
 Lys Pro Val Pro Gly Cys Pro Ala Ser Ser Ser Val Phe Glu Phe Pro
 180 185 190
 Ser Gly Gln Ala Phe Leu Val Gly His Leu Gln Asn Leu Arg Leu Asp
 195 200 205
 Ser Gly Pro Ser Pro Ala Ser Pro Leu Ser Ser Ile Ser Ala Pro Asn
 210 215 220
 Ser Thr Asp Ala Thr His Leu Lys Phe His Pro Val Phe Val Pro His
 225 230 235 240
 Ser Ala Pro Ala Val Leu Thr His Ser Asn Glu Asn Arg Ser Asn Cys
 245 250 255
 Val Phe Glu Phe His Ala Gln Thr Pro Ser Ser Ser Gly Glu Gly
 260 265 270
 Gly Gly Ile Leu Pro Gln Arg Val Tyr Arg Asn Arg Gln Val Ala Val
 275 280 285
 Asp Ser Ser Gln Glu Glu Leu Ser Pro Gln Ser Val Gly Leu His Cys
 290 295 300
 His Leu Gln Pro Val Thr Glu Glu Gln Arg Asn Asn His Thr Pro Glu
 305 310 315 320
 Leu Thr Ile Ser Val Val Glu Pro Met Gly Gln Asn Trp Pro Val Gly
 325 330 335
 Ser Pro Glu Tyr Ser Ser Asp Ser Ser Gln Ile Thr Ser Ser Asp Ile
 340 345 350
 Ser Asp Phe Gln Ser Pro Pro Pro Thr Gly Gly Thr Ala Ala Pro Phe
 355 360 365
 Gly Ser Asp Val Ser Leu Pro Tyr Ile Arg Leu Pro Gln Thr Val Leu
 370 375 380
 Gln Glu Ser Pro Leu Phe Phe Cys Phe Pro Gln Gly Thr Thr Ser Gln
 385 390 395 400

Gln Val Leu Ser Ala Ser Tyr Ser Ser Gly Gly Ser Ala Leu His Pro
405 410 415

Gln Val Ile Gly Lys Leu Ser Gln Phe Phe
420 425

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<211> 24
<212> DNA
<213> Artificial

<220>
<223> Forward amplification Primer

<400> 24
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24

<210> 25
<211> 19
<212> DNA
<213> Artificial

<220>
<223> Reverse Replication Primer

<400> 25
cccccttgta ctggcttct

19

<210> 26
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Forward Replication Primer

<400> 26
caccagaggc cgtagttatg ttg

23

<210> 27
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Reverse replication primer.

<400> 27
ttgaggaggc agttcttctt gatt

24

<210> 28
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Forward replication primer.

<400> 28
gcgcctgctg tgttaactca taa

23

<210> 29
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Reverse replication primer.

<400> 29
ccaaagatgg ggaaaactcta ctga

24

<210> 30
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Forward replication primer.

<400> 30
accatcacct aaggagacag acc

23

<210> 31
<211> 22
<212> DNA
<213> Artificial

<220>
<223> Reverse replication primer.

<400> 31
tgcaacaaat gtaccactct gg

22

<210> 32
<211> 16
<212> DNA
<213> Artificial

<220>
<223> Forward replication primer.

<400> 32
agtcctaaaa tcccccg

16

<210> 33
<211> 21
<212> DNA
<213> Artificial

<220>

WO 2004/043999

<223> Reverse replication primer.

PCT/CA2003/001716

<400> 33

gccccatgtctta taaaataccct g

21